

STORING DEVICE IN ARMREST OF SOFA OR ARMCHAIR

The present invention relates to a storing device arranged in an armrest of a sofa or an armchair.

5 More particularly, the present invention relates to a slidable storing device combined to an armrest of a sofa or an armchair.

French Patent No. 2,577,776 discloses an armchair defining a storing volume formed in at least one armrest.
10 The storing volume is accessible from the outside of the armrest by an articulated flap assembled to the armrest through a system having two compasses.

However, such a storing structure has several problems. In fact, a user who seats on the sofa is not directly
15 accessible to the storing volume since the flap is mounted at the side of the armrest. Meanwhile, if the armrest is arranged near to a wall, the user is not accessible to the storing volume.

Moreover, a storing device which is accessible by a detachable upper face of the armrest and formed in the
20 armrest of the sofa has been disclosed. However, such a storing structure is inconvenient in use since the armrest must be removed to obtain a merit in a storing area. Meanwhile, such a storing structure provides a small space
25 for storing articles therein.

Therefore, an object of the present invention is to provide a storing device formed in an armrest of a sofa or an armchair, which has a simple structure and is not exposed to the outside when it is retracted, and to which a user who
30 seats on the sofa is easily accessible.

To achieve the above object, the present invention provides a storing device, which is arranged in at least one

of armrests of an armchair, a sofa and a settee, comprising:
a drawer adapted to slidably move along an axis parallel to a
vertically symmetric axis of the armrest and occupy the whole
of the internal volume of the armrest; guiding and sliding
5 means for withdrawing the whole of the drawer outwardly from
the armrest by the front face of the armrest, each guiding
and sliding means being arranged not to remain invisible from
the outside when the drawer is withdrawn; a support plane
formed on the upper face of the drawer and having a housing;
10 and a cover provided to the front face of the drawer and
having the form corresponding to a cross section of the
armrest, whereby the drawer is invisible to the outside when
the drawer is retracted from the armrest since the drawer is
matched with the outer surface of the armrest.

15 The guiding and sliding means of the drawer may include
at least two telescopic type groove units having balls, and
each of the telescopic type groove units having the balls has
the first end connected to a structural body of the armrest
and the second end connected to the drawer.

20 The rear part of the drawer is connected to a frame, the
first telescopic type groove units having the balls are
connected to the top of the frame and the structural body of
the armrest by the two ends thereof, and the second
telescopic type groove units having the balls are connected
25 to the bottom of the frame and the structural body of the
armrest by the two ends thereof. The size and arrangement of
the drawer, the frame and the groove units are determined in
such a way that they remain in a volume that the frame is
partitioned by the armrest at a position where the drawer is
30 withdrawn to the outside.

The storing device includes auxiliary means for
preventing an improper opening except opening by the user's

manipulation and maintaining the drawer at the position where the drawer is retracted.

The means for maintaining the drawer at the retracted position may be a spring magnet locking device, and the locking device can lock the drawer when it is closed and open the drawer by measured pressure conducted by the user in a progress direction from the armrest.

The drawer may include at least one foldable plate detachably and slidably mounted on the drawer to form an arrangement face thereon, which is horizontally expandable toward the outside of the armchair or the sofa.

The drawer may include a base iron angle, and a pair of first vertical iron angles for forming a storing housing against an approximately rectangular plate, wherein the storing housing of the plate is parallel to a sliding axis of the drawer, and the plate is vertically pulled outwardly from the housing by the user, introduced to a pair of second horizontal iron angles and connected to an upper horizontal plate located on the top of the plate, whereby a horizontal arrangement plane can be formed.

The above and other objects, features and advantages of the present invention will be apparent from the following detailed description of the preferred embodiments of the invention in conjunction with the accompanying drawings.

FIG. 1 is a schematic view of a storing device of an armrest of a sofa according to a first embodiment of the present invention when it is withdrawn.

FIG. 2A is a side sectional view for showing guide and sliding means of the storing device of FIG. 1.

FIG. 2B is a side sectional view of the storing device according to the present invention when it is retracted.

FIG. 3A is a side sectional view of a storing device of

the armrest of the sofa according to a second embodiment of the present invention.

FIG. 3B is a front view of the storing device of FIG. 3A.

FIG. 4A is a partially schematic view showing a state
5 where a foldable support plate of the storing device of FIG. 3A is folded, seen from the outside.

FIG. 4B is a partially schematic view showing a state where the foldable support plate of the storing device of FIG. 4A is expanded, seen from the inside.

10 Hereinafter, referring to FIGS. 1, 2A and 2B, the present invention will be described. A storing device according to the present invention is formed in at least one armrest 2 of an armchair, a sofa or a settee. The storing device includes a parallelepiped type drawer 1 which occupies
15 the whole of the internal volume of the armrest 2.

Of course, the drawer 1 may occupy a part of the internal volume of the armrest 2. In FIG. 1 showing an unrestricted example, the armrest 2 has an approximately parallelepiped base having the upper part forming an inclined
20 head toward the outside of the sofa or the armchair. The drawer 1 is slidably mounted on the armrest 2 along an axis parallel to a horizontal symmetric axis of the armrest 2. So, the drawer 1 is accessible by the front face or the vertical face of the armrest 2. The front face and the vertical face
25 of the drawer 1 are provided with a cover 3 of the form corresponding to a cross section of the armrest 2 to be matched with the outer form of the armrest 2, so that the drawer 1 remains invisible from the outside when the drawer 1 is retracted. For instance, the cover 3 may be covered with
30 the same material (fabrics, leather, or others) as the outer covering of the sofa or the armchair. Guiding and sliding means of the drawer 1 against the structure of the armrest 2,

for example, may be constructed by at least two telescopic type groove units 10, 11, 12, 13, 14 and 15 having balls, each of which has the first end connected to a structural body of the armrest 2 and the second end connected to the drawer 1. The rear part of the drawer 1 may be connected to a frame 4 of, for example, an approximately parallelepiped. The three first telescopic type groove units 10, 11 and 12 having the balls are connected with the top of the frame 4, and the three second telescopic type groove units 13, 14 and 15 having the balls are connected with the bottom of the frame 4 and the structural body of the armrest 2. The telescopic type groove units 10, 11, 12, 13, 14 and 15 can be kept inside the structural body of the armrest 2, for example, by such a maintaining support (not shown). The telescopic type groove units 10, 11, 12, 13, 14 and 15 having the balls can withdraw the whole of the drawer 1 outwardly from the armrest 2. It is preferable that the drawer 1, the frame 4 and the telescopic type groove units 10, 11, 12, 13, 14 and 15 are determined in such a way that they remain in a volume that the frame 4 is partitioned by the armrest 2 at a position where the drawer 1 is withdrawn outwardly. That is, the frame 4 is invisible from the outside when the drawer 1 is withdrawn. Of course, the present invention is not restricted to the above embodiment. Moreover, the number and arrangement of the guiding and sliding means may be varied. For instance, the guiding and sliding means of the drawer 1 may be arranged on sides of the drawer 1 and the frame 4 at the height of two vertical sides. In the same way, the telescopic type groove units having the balls may be substituted with another unit of equivalence performing the same function.

It is preferable that the armrest 2 and the drawer 1

respectively include auxiliary means (not shown) for preventing an improper opening except the user's opening manipulation and maintaining the drawer at a retracted position. For instance, the auxiliary means of the drawer 1
5 at the retracted position may be a spring magnet locking device, and the locking device can lock the drawer when it is closed and open the drawer by measured pressure conducted by the user in a progress direction from the armrest. As described above, after locking the drawer 1, the user can
10 pull and slidably withdraw the drawer 1 in the outward direction while seating on the sofa or the armchair. In the same way, the user can slidably retract the drawer 1 in an entering direction into the armrest 2. The drawer 1 includes a horizontal plate 5 formed on the upper part thereof. It is
15 preferable that the horizontal plate is a flat support, on which, for instance, a glass thing or an ash tray is located. Meanwhile, the drawer also includes a jaw 6 or a rack formed at the center thereof for storing various articles thereon. Finally, the drawer 1 further includes a housing 7 of a
20 magazine rack type. It would be appreciated that the number and arrangement of the jaw or the magazine rack type housing may be varied without departing from the scope of the present invention. In the same way, the drawer 1 may include, for instance, a bar type housing.

25 FIGS. 3A and 3B show a modified embodiment of the present invention. The storing device shown in FIGS. 3A and 3B is different from that of FIG. 1 in the form of the armrest 2 and in that the drawer 1 has a foldable plate 8. In FIGS. 3A and 3B, the same parts as the first embodiment
30 have the same reference numerals. Of course, the drawer shown in FIGS. 1, 2A and 2B may include the foldable plate 8. The armrest 2 shown in FIGS. 3A and 3B has a cross section of

an approximately rectangle. The drawer 1 has the foldable plate 8 expanding horizontally against the drawer 1 to form a horizontal arrangement plane toward the inside or the outside of the sofa or the armchair from the upper part thereof. The plate is mounted on the drawer 1 in a foldable type. For instance, the plate is slidably mounted under the horizontal plate 5 arranged on the top thereof. In addition, the plate 8 may be mounted on the drawer 1 in an articulated type. FIGS. 4A and 4B show a detailed example that the foldable plate 8 of the rectangular form is mounted on the drawer 1. The drawer 1 includes an L- or U-shaped base iron angle 9C and a pair of first L- or U-shaped vertical iron angles 9A and 9B, for example, forming a U-shaped storing housing against the plate 8. The storing housing of the plate 8 is parallel to a sliding axis of the drawer 1, and located on a side of the drawer 1 rotating outwardly from the sofa or the armchair. The plate 8 is vertically pulled by the user in the outward direction of the housing, introduced to a pair of second L- or U-shaped horizontal iron angles 19A and 19B, and connected to the horizontal plate 5 located on the top of the plate 8, whereby a horizontal plane is formed toward the inside of the sofa or the armchair.

Of course, the present invention is not restricted to the above detailed example. The plate 8 may be mounted on the drawer 1 in the articulated type around the axis parallel to the sliding axis of the pivotally rotating drawer 1 over the top of the drawer 1. In this case, the drawer 1 may not include the upper horizontal plate 5 in order to enable expansion of the plate 8 toward the inside of the sofa. The plate 8 can be maintained horizontally by well-known maintaining means (not shown).

An assembly of the components of the storing device may

be made of wood, metal, plastic or other materials.

As described above, the storing device according to the present invention is a simple device for practical use, which can be applied to the armrest of sofas, armchairs, settees, 5 or other type chairs. In fact, the form and size of the drawer 1 can be changed according to the form and size of the armrest 2. The storing device according to the present invention provides a systematic storing space which is easily accessible and retractable, and provides the user with senses 10 of arrangement and comfort of the sofa or the armchair.

While the present invention has been described with reference to the particular illustrative embodiments it is not to be restricted by the embodiment but only by the appended claims. It is to be appreciated that those skilled 15 in the art can change or modify the embodiment without departing from the scope and spirit of the present invention.

【CLAIMS】**【Claim 1】**

A storing device arranged in at least one of armrests of an armchair, a sofa and a settee comprising:

5 a drawer adapted to slidably move along an axis parallel to a vertically symmetric axis of the armrest (2) and occupy the whole of the internal volume of the armrest (2);

guiding and sliding means (10-12; 13-15) for withdrawing the whole of the drawer (1) outwardly from the armrest by the
10 front face of the armrest, each guiding and sliding means being arranged to remain invisible from the outside when the drawer (1) is withdrawn;

a support plane formed on the upper face of the drawer (1) and having a housing; and

15 a cover (3) provided to the front face of the drawer (1) and having the form corresponding to a cross section of the armrest (2), whereby the drawer (1) is invisible to the outside when the drawer is retracted from the armrest (2) since the drawer is matched with the outer surface of the
20 armrest (2).

【Claim 2】

The storing device according to claim 1, wherein the guiding and sliding means of the drawer (1) is constructed by at least two telescopic type groove units (10-12; 13-15)
25 having balls, and each of the telescopic type groove units (10-12; 13-15) having the balls has the first end connected to a structural body of the armrest (2) and the second end connected to the drawer (1).

【Claim 3】

30 The storing device according to claim 2, wherein the rear part of the drawer (1) is connected to a frame (4), the first telescopic type groove units (10-12) having the balls

are connected to the top of the frame (4) and the structural body of the armrest (2) by the two ends thereof, and the second telescopic type groove units (13-15) having the balls are connected to the bottom of the frame (4) and the structural body of the armrest (2) by the two ends thereof, and wherein the size and arrangement of the drawer, the frame and the groove units are determined in such a way that they remain in a volume that the frame (4) is partitioned by the armrest (2) at a position where the drawer (1) is withdrawn to the outside.

【Claim 4】

The storing device according to one of claims 1 to 3, further comprising means for preventing an improper opening except opening by the user's manipulation and maintaining the drawer (1) at the position where the drawer (1) is retracted.

【Claim 5】

The storing device according to claim 4, wherein the means for maintaining the drawer at the retracted position is a spring magnet locking device, and the locking device can lock the drawer (1) when it is closed and open the drawer by measured pressure conducted by the user in a progress direction from the armrest.

【Claim 6】

The storing device according to one of claims 1 to 5, wherein the drawer (1) includes at least one foldable plate detachably and slidably mounted on the drawer to form an arrangement face thereon, which is horizontally expandable toward the outside of the armchair or the sofa.

【Claim 7】

The storing device according to claim 6, wherein the drawer (1) includes a base iron angle (9C), and a pair of first vertical iron angles (9A, 9B) for forming a storing

housing of an approximately rectangular plate (8), and wherein the storing housing of the plate (8) is parallel to a sliding axis of the drawer (1), and the plate is vertically pulled outwardly from the housing by the user, introduced to
5 a pair of second horizontal iron angles (19A, 19B) and connected to an upper horizontal plate (5) located on the top of the plate (8), whereby a horizontal arrangement plane can be formed.